Piecewise Interpolation For Designing Of Parametric Curves

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Summary

A piecewise rational cubic spline curve has been described. The designed curve possesses parameters (weights) in each interval which can be used to control the shape of the curve. A very simple distance-based approximated derivative scheme is presented to calculate the control points. Also, for any interval, it is possible to calculate control points for intermediate point interpolation or conic curves without affecting the neighborhood. The scheme is local, easy to implement, and suitable for plane as well as space curves